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| 10/719,053 | 11/20/2003 | Calvin Keith Cope | HQRI102.01 | 3289 |

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Ormiston & McKinney, PLLC
Suite 400
P.O. Box 298 802 W. Bannock
Boise, ID 83701-0298

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| EXAMINER |
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HURLEY, KEVIN

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| ART UNIT | PAPER NUMBER |
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3611

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/719,053 | Applicant(s) COPE, CALVIN KEITH | |
| | Examiner Kevin Hurley | Art Unit 3611 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 6-13, 15-17, 20-24, 28-32 and 35-40 is/are pending in the application.
- 4a) Of the above claim(s) 13, 15 and 35-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 6-12, 16, 17, 20-24, 28-32, 38 and 39 is/are rejected.
- 7) ☒ Claim(s) 40 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of the invention of Group I, claims 6-12, 16-17, 20-24, and 28-32 in the reply filed on 25 June 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Claims 13, 15, and 35-37 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 25 June 2004.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

There is no mention in the specification of the "retainer" recited in claims 7, 17, and 21.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 7, 10, 17, and 21-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 7-10, 17, and 21 it is unclear which element the "retainer" is referring to.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6-10 (as understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Willock in view of Dickinson.

Willock discloses the claimed invention except it uses a thrust bearing 18 having an opening therethrough instead of first and second bearing plates with the second bearing plate face bearing on the first bearing plate face.

It is known in the art, as disclosed by Dickinson, to provide a rotatable joint between vehicles which includes a first 48 and second 50 bearing plate in place of a normal thrust bearing.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Willock by replacing the thrust bearing shown with first and second bearing plates, in view of Dickinson, as the two are art recognized equivalents.

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8. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willock as applied to claims 6-10 above, and further in view of Fresmann et al.

Willock, as modified above, discloses the claimed invention except for a joint between the yoke and drive shaft including external splines on the drive shaft and internal splines on one of the yokes.

It is known in the art, for example as shown by Fresmann et al., see Fig. 2B shaft 130, to provide a splined joint between a yoke and a shaft to allow the two to be easily disassembled and reassembled.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Willock by providing a splined joint between the drive shaft and one of the yokes in order to allow the two to be easily disassembled and reassembled.

9. Claims 16-17, 20-24 (as understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Page in view of Dickinson and Willock.

Page discloses a vehicle assembly comprising:

- a first sub-frame 12;

- a second sub-frame 13;

- a first bearing plate 33 connected to the first sub-frame, the first bearing plate having an opening therethrough and a face;

- a front sleeve 24 extending forward from the first bearing plate along a longitudinal axis which lies substantially perpendicular to the bearing plate face;

- a rear sleeve 25 extending rearward from the first bearing plate along the longitudinal

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axis;

a tubular bushing 27 extending through the sleeves;

a drive shaft 18 rotatable in and extending through the bushing;

a first yoke 17 disposed at a forward end of the drive shaft, the first yoke connectable to a front drive line of a vehicle;

a retainer 32 operatively coupled to the shaft and the bushing.

Page fails to disclose a pair of bearing plates and a second yoke.

It is known in the art, as disclosed by Dickinson, to provide a rotatable joint between vehicles which includes a first 48 and second 50 bearing plate in place of a normal thrust bearing.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Page by replacing the thrust bearing shown with first and second bearing plates, in view of Dickinson, as the two are art recognized equivalents.

It is also known in the art to provide yokes at both sides of a center rotary joint, as shown by Willock, in order to allow both the front and rear axles to move with the suspensions of the front and rear wheels.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Page, by providing a rear yoke in order to allow both the front and rear axles to move with the suspensions of the front and rear wheels.

10. Claims 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Page as applied to claims 16-17, 20-24 above, and further in view of Hull et al.

Page, as modified above, discloses the claimed invention except for a locking mechanism operatively coupled between the front and rear sub-frames, the locking mechanism operative between a first position in which the sub-frames are rigidly coupled and a second position in which the sub-frames are free to rotate relative one another.

Hull et al. discloses such a locking mechanism 50 which allows the sub-frames to be locked together when not being used on rough terrain.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Page, by providing the locking mechanism disclosed by Hull et al., in order to allow the sub-frames to be locked together when not being used on rough terrain.

11. Claims 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Page, as applied to claims 29-30 above, and further in view of a public use or sale of the invention.

The inventor's declaration filed 8 October, 2000 in application 09/229,853 indicates that the vehicle demonstrated in the mud pits in 1989 included the bearing plates identified as part numbers 94/98 and 96/100.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Page by providing a outboard bearing plates interposed between the first sub-frame and the second sub-frame in order to prevent the two sub-frame from damaging each other while traversing rough terrain.

12. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Page in view of Hull et al.

Page discloses a split-frame vehicle comprising: a frame including a first sub-frame 12 rotatably coupled to a second sub-frame 13; an engine 16 supported by the frame; a transmission operatively coupled to the engine; a first set of wheels 15 connected to one of the sub-frames; a second set of wheels 14 connected to the other of the sub-frames; a center bearing 34 rotatably coupling the second sub-frame to the first sub-frame at a center portion of the sub-frames; a drive line 18 rotatable in and extending through the center bearing, the drive line operatively coupled between the transmission and at least one of the sets of wheels.

Page discloses the claimed invention except for a locking mechanism operatively coupled between the front and rear sub-frames, the locking mechanism operative between a first position in which the sub-frames are rigidly coupled and a second position in which the sub-frames are free to rotate relative one another.

Hull et al. discloses such a locking mechanism 50 which allows the sub-frames to be locked together when not being used on rough terrain.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Page, by providing the locking mechanism disclosed by Hull et al., in order to allow the sub-frames to be locked together when not being used on rough terrain.

13. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Page as applied to claim 38 above, and further in view of Dickinson.

Page, as modified above, discloses the claimed invention except it uses a thrust bearing having an opening therethrough instead of first and second bearing plates with the second bearing plate face bearing on the first bearing plate face.

It is known in the art, as disclosed by Dickinson, to provide a rotatable joint between vehicles which includes a first 48 and second 50 bearing plate in place of a normal thrust bearing.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Page by replacing the thrust bearing shown with first and second bearing plates, in view of Dickinson, as the two are art recognized equivalents.

Allowable Subject Matter

14. Claim 40 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Hurley whose telephone number is 703-308-0233. The examiner can normally be reached on Monday-Friday 9:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on 703-308-0629. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Kevin Hurley
Primary Examiner
Art Unit 3611

July 27, 2004